



*A Forested Public Water Supply Perspective on
Producing Clean Water in an Era of Change*

Topics Covered in this Presentation

Conservation Easement Partnerships
Land Acquisitions
Forestry Challenges
Recreational Pressures
Stormwater Runoff

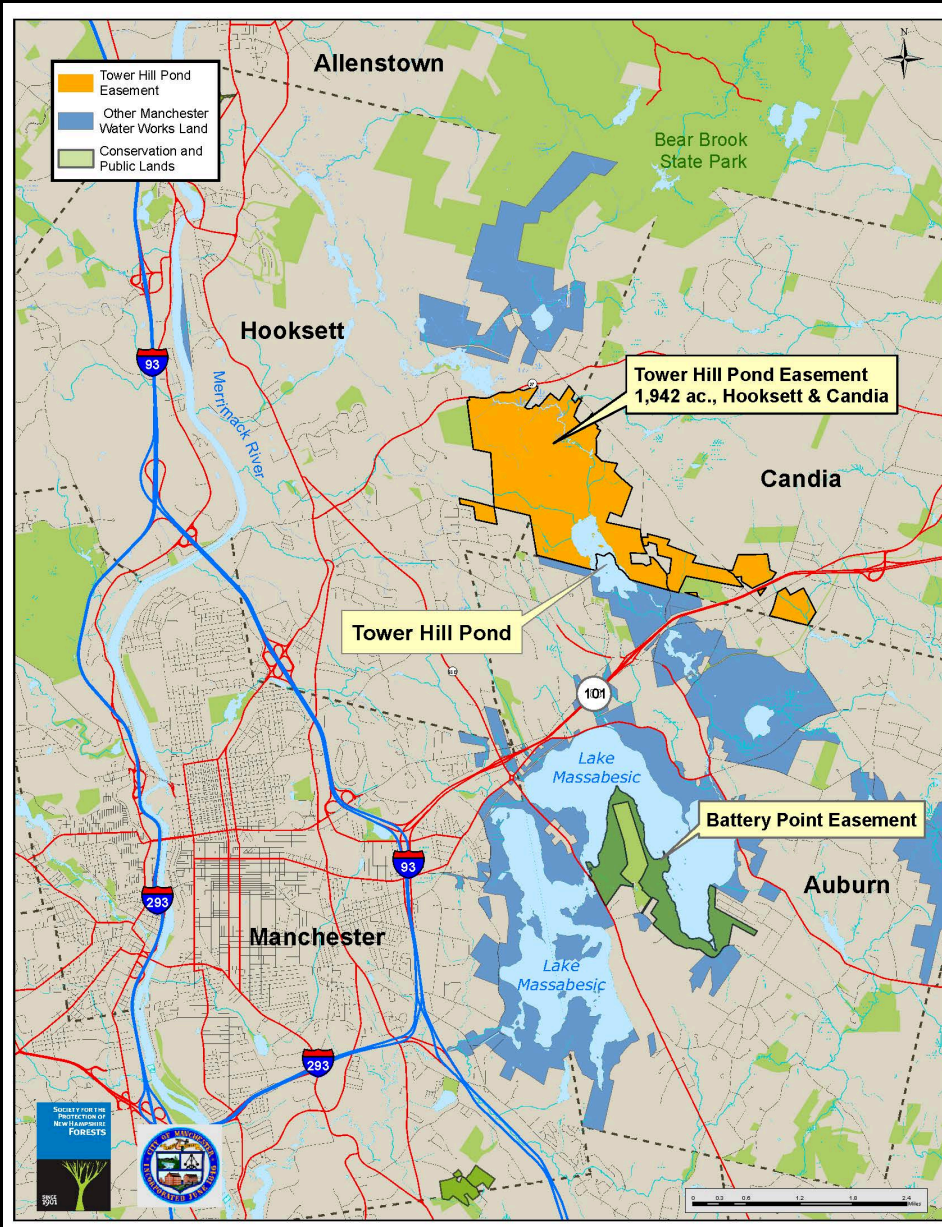
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Conservation Easement Partnerships

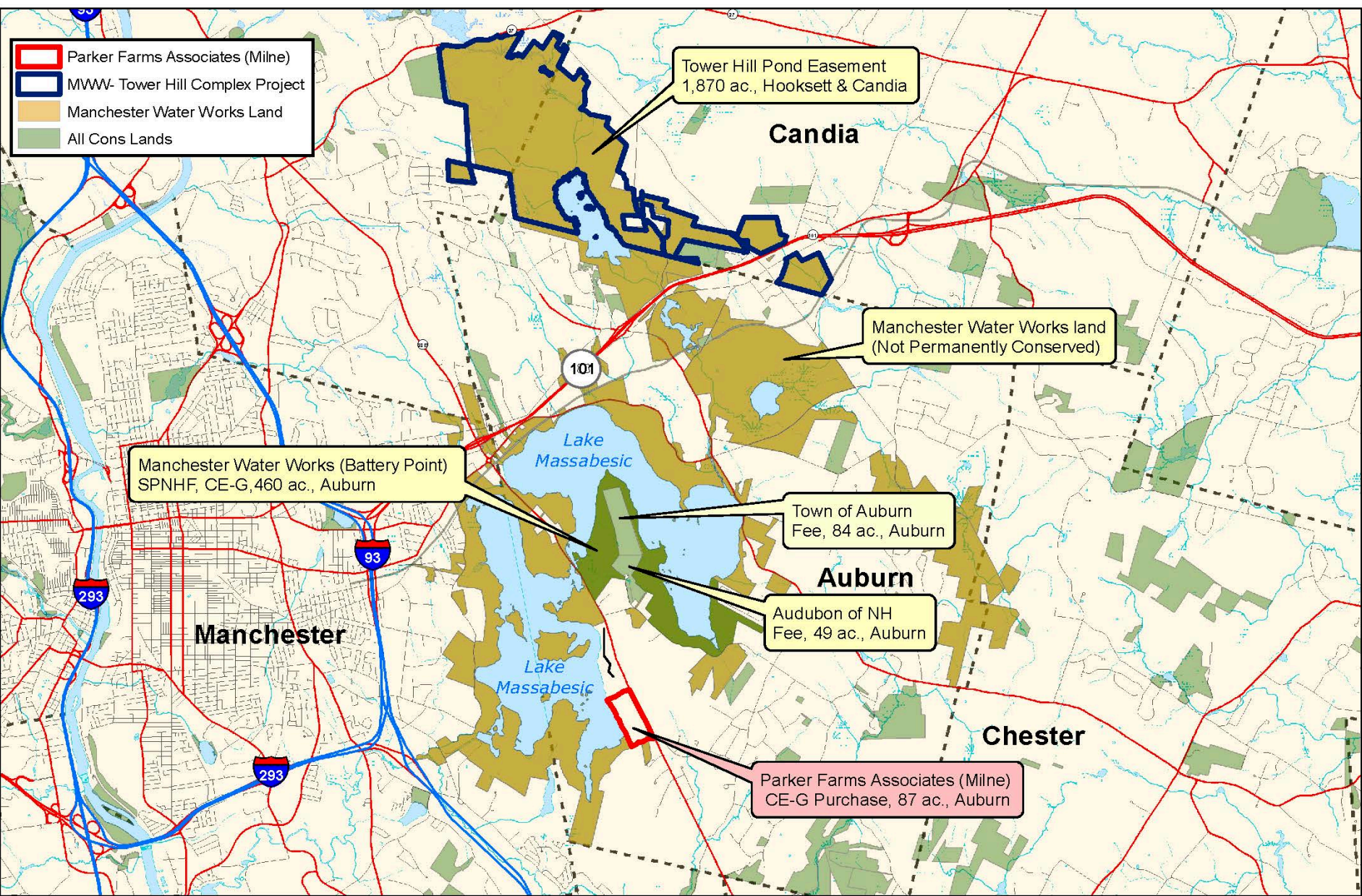
Cooperative Drinking Water Projects between Manchester Water Works and Society for the Protection of New Hampshire Forests



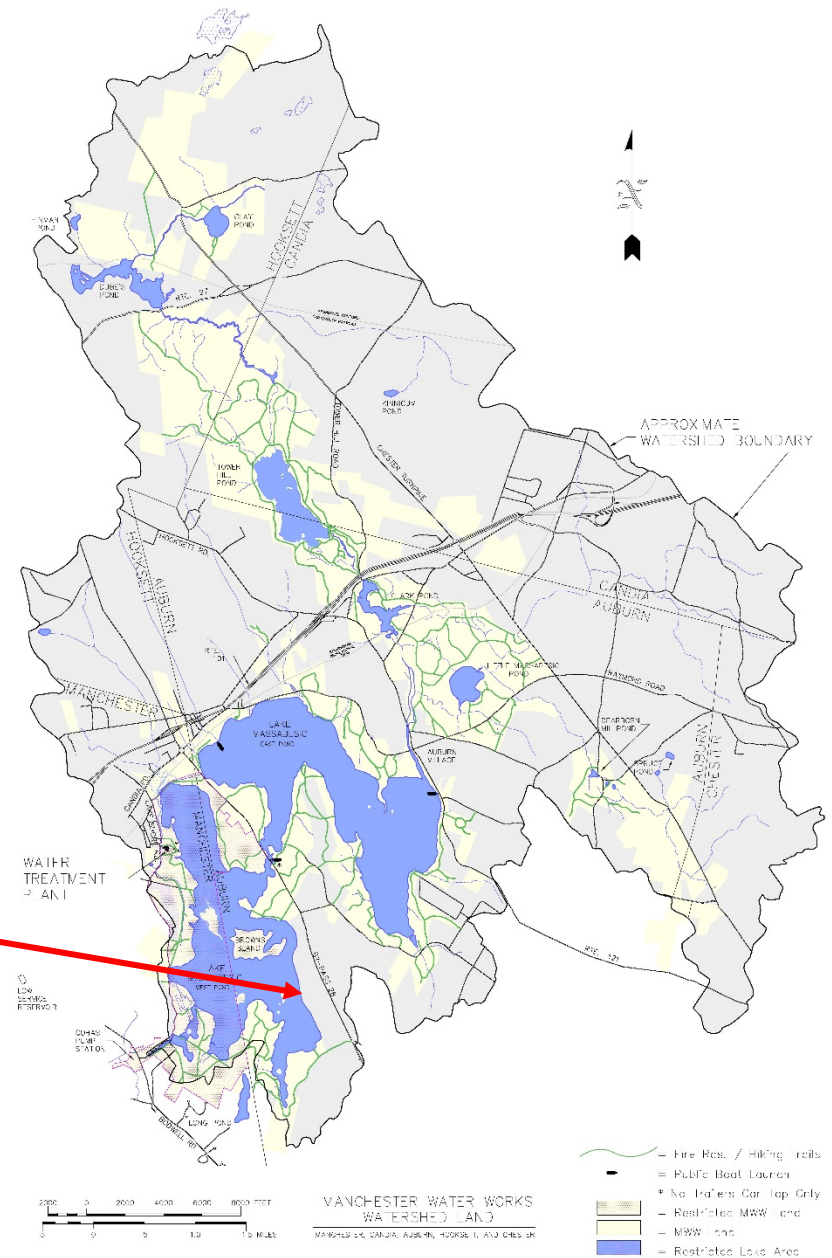
2007– Battery Point Easement Project
460 acres, Auburn, NH



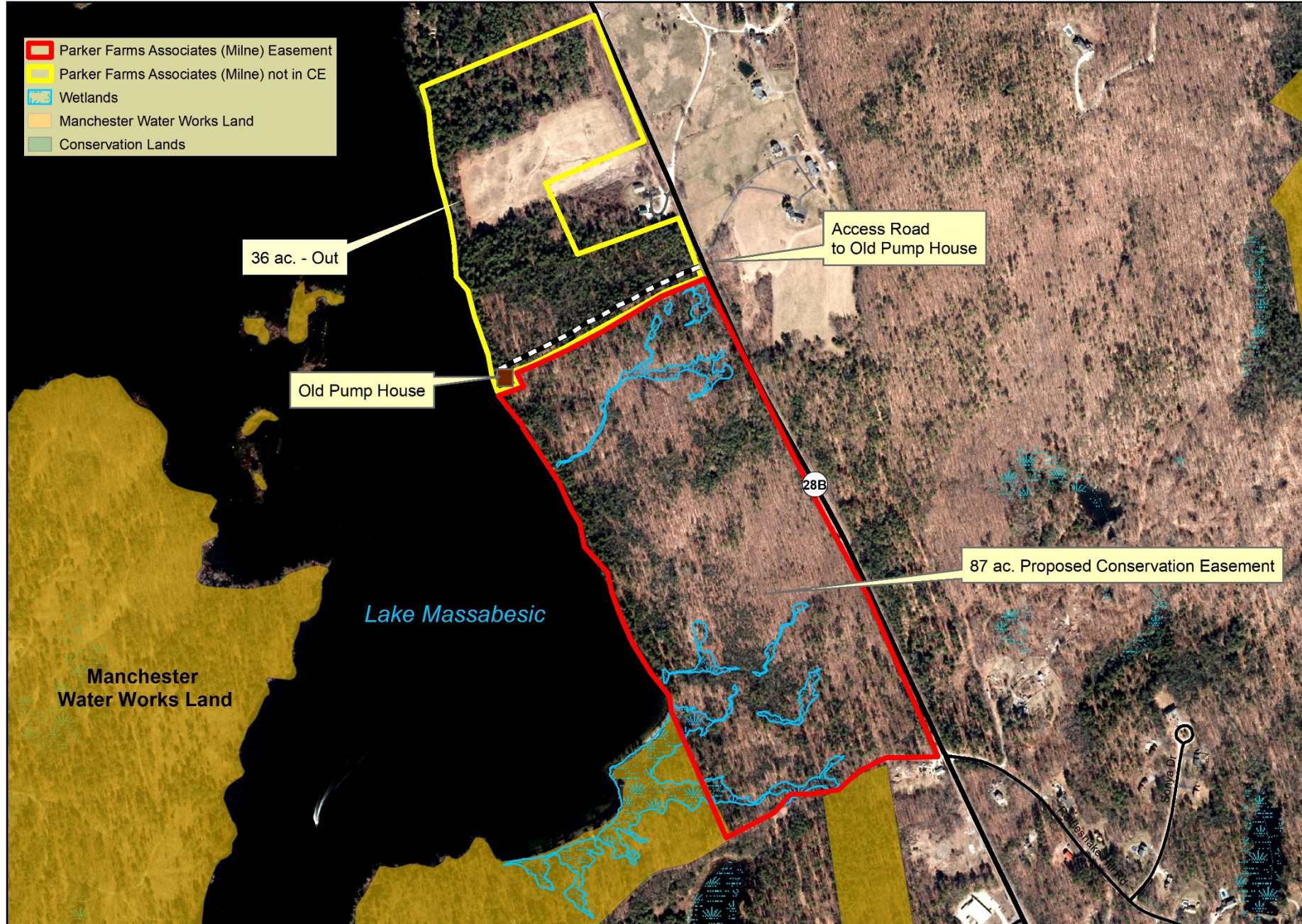
2019 - Tower Hill Pond Easement Project
1,942 acres, Candia & Hooksett, NH



A map of Lake Massabesic, a large blue body of water. The surrounding land is colored in shades of brown and tan, representing different land use types. A red rectangle is drawn on the eastern shore of the lake, indicating the location of the study area. A red arrow points from the right edge of the map towards this rectangle. A black line, possibly a road or boundary, runs along the eastern shore near the study area. The text "Lake Massabesic" is written in blue across the center of the lake.



- Parker Farms Associates (Milne) Easement
- Parker Farms Associates (Milne) not in CE
- Wetlands
- Manchester Water Works Land
- Conservation Lands



36 ac. - Out

Old Pump House

Access Road
to Old Pump House

87 ac. Proposed Conservation Easement

Lake Massabesic

Manchester
Water Works Land

28B

Sonia Dr

B. Hotz, Forest Society, 5/15/2019; Source Data: NH GRANIT

Parker Farms Associates (Milne) Easement, 87 ac.

Auburn, NH


Society for the Protection of New Hampshire Forests

0 640 1,280 Feet



NH Wildlife Action Plan

-  Wetlands
-  Tier 1-Highest Ranked in State
-  Tier 2-Highest Ranked in Biological Region
-  Tier 3-Supporting Landscape

-  Parker Farms (Milne) - CE
-  Wetlands

Milne (Parker Farm Assoc.), CE-G Purchase,
87 acres, Auburn

Parker Farms (Milne) Conservation Easement, 87 ac.
Auburn, NH

B. Hotz, Forest Society, 5/13/2019; Source Data: NH GRANIT

0 690 1,380
Feet







Project Costs

Conservation Easement Value **\$850,000**

Project Expenses	\$48,450
(expenses - legal, survey, transaction, stewardship, etc.)	

Total Project Cost **\$898,450**

Funding Sources

Grants

- NH DES Drinking Water Grant \$48,450
- NH DES Drinking Water Ground Water Trust Fund \$375,000
- NH DES Aquatic Resources Mitigation \$375,000
- Manchester Water Works (pending proposal) \$100,000

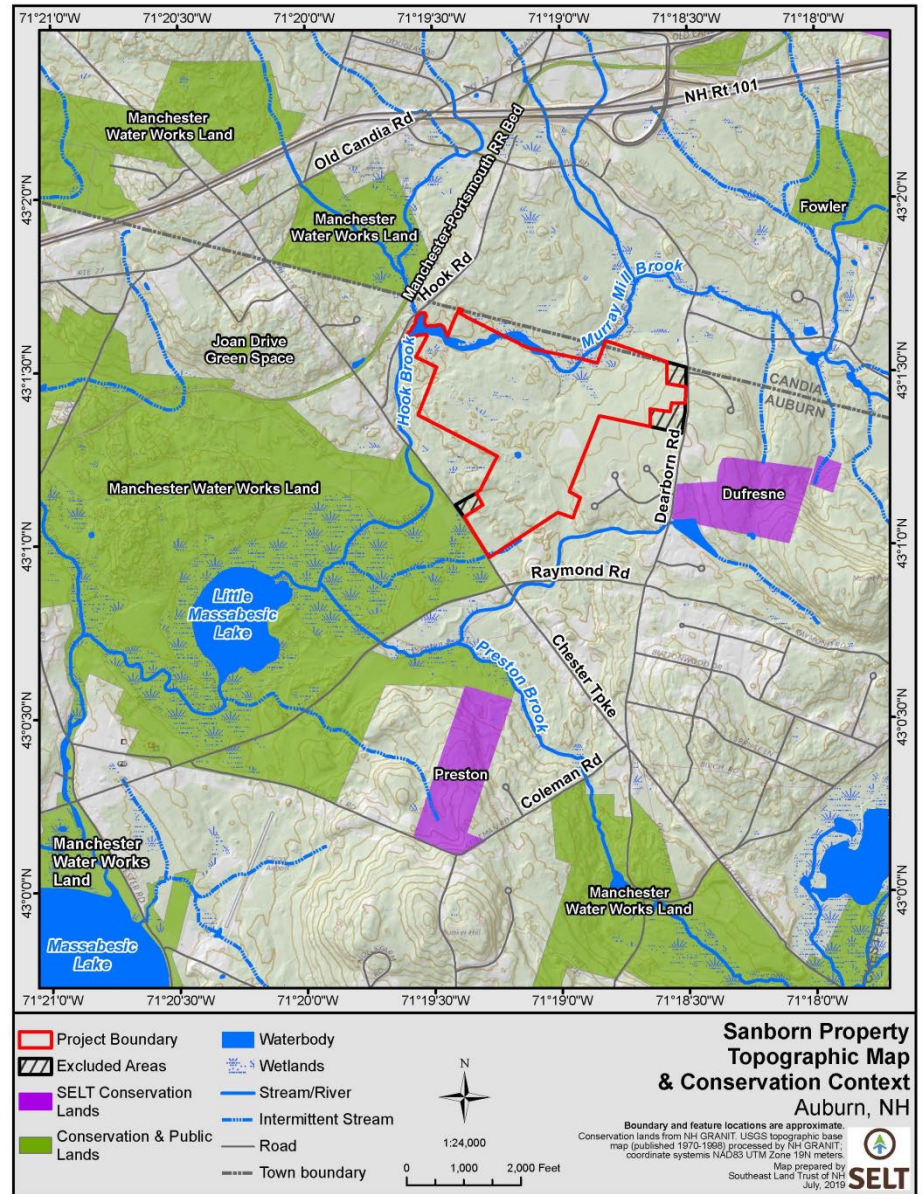
Total **\$898,450**

MWW and SELT

The Manchester Water Works (MWW) and the Southeast Land Trust (SELT) are partnering on a privately owned property in Auburn, NH.

MWW is contributing \$50,000 to this project.

It is a \$1.3 million property which is now a \$675,000 project.



Land Acquisitions

Land Acquisition Plan

- Currently MWW owns 400+ deeds, totaling over 8,000 acres and were bought for \$2.6 million (mostly before 1950).
- Vacant land in watershed is around 400 properties, totalling almost 8,000 acres, with an assessed value of \$32 million.
- Homes with backland are around 300 properties, totaling 5,000 acres, with an assessed value of \$76 million (The home costs need to be removed).

Recent Projects :2012-2019

- Vaillancourt Property: 21 acres in Auburn, NH. Very close to Lake Massabesic. Property abuts a major wetland complex which feeds a major tributary to Lake Massabesic. Purchase Price \$100,000.
- Harrison Trust Property: 6 acres in Hooksett, NH abutting Tower Hill Complex. It has a ROW access, a building lot, and designated prime wetlands. Purchase price \$22,000.
- Babin Property: 2 acres in Auburn, NH. Purchase price \$470,000.
- Eustice Griffin Property: 13 acres on Preston Brook and Raymond Road. Purchase Price \$20,000.

Forestry Challenges



Severe weather events (2010)



Red Pine Scale (2012)



Regeneration (1997-2019)



Mixedwood



Hardwood Group Selection



Emergents

- Needle cast fungus stressors
- Emerald Ash Borer
- Hemlock Woolly Adelgid
- Droughts?
- Floods?
- Category 5 Hurricane?
- Markets/People/Politics?

Recreational Pressures

Forested Watershed Benefits

- A forested watershed provides scenic beauty.
- A forested watershed provides a rural appeal to the local community.
- A forested watershed can provide a recreational and a educational experience if open to the public.
- However.....
- People bring with them:
Trash, poop, erosion, oversight, headaches for a public water supply staff.



You can't make
this stuff up!



Illegal Trails Suck



It's feces not manure



Stormwater Runoff

Mother's Day Flood 2006



Forests and Stormwater

- Forests store water in their roots, trunks, stems, and leaves.
- Young and healthy forests store more water and nutrients than older forests.
- Forest soils absorb more rainwater and runoff than farm fields, lawns, buildings, sidewalks, or parking lots do.
- Forests buffer road runoff by capturing salt, sand, and chemicals that could travel in runoff.
- Forests slow down water flows to filter out contaminants.
- Forests minimize turbidity in the lake by containing runoff.

New Trends

- UNH Stormwater Certificate
 - Seven workshops
 - Hydrology, Design, System Performance, Controls, and Modeling
- NHDES NH Voluntary Salt Applicator Certification
 - Salt Applicator Form
 - Green SnowPro Refresher Course
 - Annual NH Salt Symposium
 - Free salt accounting system
- NH Road Agents Association

Questions?

